REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 20, 21 and 24-29 remain active in the application subsequent to entry of this Amendment.

The subject matter of claims 22 and 23, which add important characteristics and properties to the method of the invention and the product so produced, have been added to claim 20 and the significance of these changes is discussed below.

By this Amendment, the anticipation rejection on page 2 and the "obviousness" rejection on pages 3-4 are no longer pertinent leaving for consideration only the rejection of claims 22 and 23 as stated on page 5 of the Official Action. It is applicants' position the references cited and combined by the examiner are not properly applied to claim 22 or claim 23 and in any event, even assuming they are considered in combination, are not suggestive of the combined teachings by these two claims which are now incorporated into claim 20. For convenience, claim 22 then claim 23 is discussed and finally the significance of the combination of the two is discussed.

The Arrington '041 and Ashida references cannot be logically combined as they present conflicting concepts. As described in Arrington '041, it is general practice to increase the temperature of a resin for improving the adhesion between a base paper (paper sheet) and the resin. Further, as described in Ashida, for suppressing the gel formation of a resin, in fact, it is desirable that the temperature of the resin should be low.

As far as the quality of a resin-coated paper is concerned, low adhesion between the resin and base paper and the formation of a gel in the resin are problems that are to be overcome. However, when the temperature for coating the resin is taken into account, the solutions to these two problems to be overcome for improving the quality of a resin-coated paper are contradictory, and it is impossible to overcome these problems at the same time as far as the resin-coating temperature is concerned.

Claim 22 is directed to a means of overcoming these two problems at the same time. Claim 22 is directed to a process of forming a multi-layered resin layer, in which a

lowermost layer is coated at a higher temperature than the upper layer. The temperature for coating the resin forming the lowermost layer is higher in order to improve the adhesion between the base paper and the resin, and the temperature for coating the resin for the upper layer is lower since resin/resin adhesion (bonding) is easier, so that formation of a gel caused by deterioration of the resin during its kneading can be prevented. Further, when a multi-layered resin layer is employed, and if the amount of the resin applied and the resin processing rate are constant relative to the surface of the base paper, the amount of resin for forming one layer, i.e., the amount of resin to be extruded per unit time period can be decreased, so that deterioration of the resin having a higher temperature for forming the lowermost layer during its kneading can be more conveniently suppressed, and that gel formation can be more reliably prevented.

Applicants submit claim 22 cannot be rejected on the basis of the combination of Arrington '041 and Ashida.

Arrington '463 discloses a method of coating the surface of a support with a resin, in which an antioxidant is added to the resin and an ozone-containing gas is blown to the resin extruded from a die to forcibly oxidize the resin.

The promotion of oxidation of the resin with ozone in a resin-coated paper is carried out for improving adhesion between the support and the resin. Arrington '463 includes the ozone treatment as an essential requirement, so that the adhesion between the resin and the support can be secured.

The present invention is directed to a process in which a multi-layered resin layer is formed, and claim 23 provides that the production rate of 250 m/minute or more is attained – it is premised on the multi-layered construction. As explained above, when the multi-layered construction is employed, and if the resin application amount and the resin coating rate are constant relative to the surface of the support, the amount of resin for forming one layer, i.e., the amount of resin to be extruded per unit time period can be decreased. As a result, even when the temperature of the resin is set at a higher temperature, deterioration caused on the resin mainly by the shear of an extruding screw

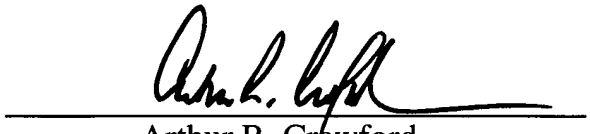
can be suppressed, and sufficient adhesion between the resin and the support can be secured at a high production rate of 250 m/minute or more without employing an ozone treatment as required by Arrington '463. The process of claim 23 is therefore a distinguishable process. Applicants submit claim 23 cannot be rejected on the basis of Arrington '463 forming part of the rejection as it requires the use of an ozone-containing gas.

Claim 20, amended to include the combination of the temperature gradient (claim 22) and the high production rate (claim 23) in the formation of a multi-layered resin layer, provides at least the following advantages results: ① the shear load is decreased, and deterioration of the resin can be prevented due to the use of a multi-layered resin layer, ② a lowermost layer alone is applied at a high temperature, so that deterioration of the resin is minimized, and at the same time, adhesion to a substrate can be secured, ③ when the production rate increases, that is, when the amount of a resin extruded per unit time period is increased, the rotation rate of the screw of an extruder is increased, and the resin is likely to become deteriorated. When a multi-layered resin layer is employed, the amount of a resin per layer can be decreased, so that this problem can be also overcome.

For the above reasons it is respectfully submitted that the claims of this application define inventive subject matter. Reconsideration and allowance are solicited.

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: 

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